Connecticut Department of Environmental Protection

citizens' bulletin

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Commissioner Gill Resigns

On December 1st, Governor Ella Grasso accepted the resignation of Commissioner Joseph N. Gill, effective December 31, 1976. She congratulated him for having done a "good job" in his nearly two years in office.

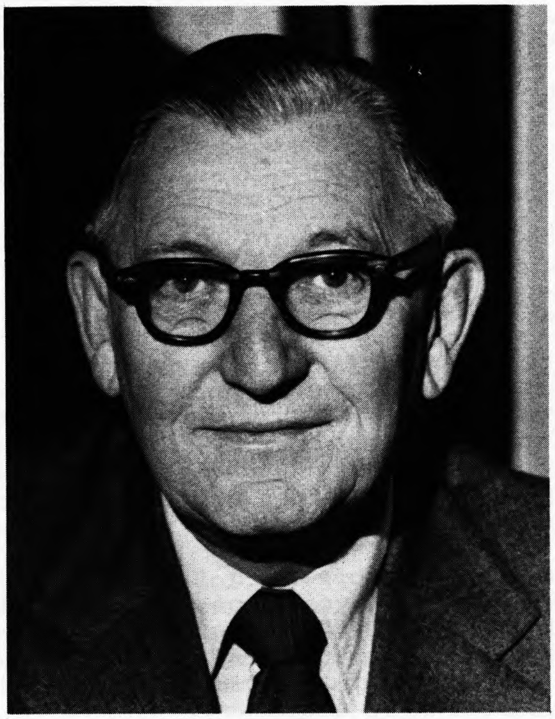
As of press time, the Governor had not named a replacement to head the agency.

Commissioner Gill, the third man to hold the DEP Commissioner's post, was appointed in March, 1975. He formerly held the position of Commissioner of Agriculture and Natural Resources from 1959-1971.

The Commissioner said he had made the decision to resign "after the weighing of many factors and personal considerations."

In his November 23rd letter of resignation, Commissioner Gill said, "I will leave this position next month with a deep sense of fulfillment and gratitude...to have been afforded the opportunity to serve this State and its people over the past twenty-five years.

"I am perhaps proudest of the fact that long before concern over the environment became popular, Connecticut was the forerunner in preserving and enhancing the quality of life; long before the name of this Department was changed to Environmental Protection, we took substantive steps to protect and preserve the environment," he said.



During Gill's tenure in State service, Connecticut has acquired over twenty-five thousand acres of land for parks and recreational use, much of it the result of the far-reaching Open Space Program which Gill helped initiate in 1963.

Commissioner Gill concluded his letter of resignation by indicating his appreciation for the dedication of his colleagues and the support of the public.

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From the Editor's Desk

It seems incredible and a bit ironic that Connecticut is the fourth densest state in population, yet every two out of three acres here are wooded.

We know we are losing both agricultural and forested acres to urban and rural development, highway construction, etc. Yet our forest stock is not being depleted. In fact, the most recent forest inventory shows that our timber volume in the state is increasing at a modest rate.

How can this be? Well, the answer largely lies in a bumper sticker message we are seeing more commonly today: Trees are a Renewable Resource. Cleared or open land, given enough time, will revert to a forest condition. Over the past 70 years or so, much of the state's marginal agricultural lands have been abandoned and our woodlands increased.

During the life of a typical forest stand, there is a period during the first 30-40 years when the trees are not large enough to be called timber. Then, almost suddenly, the trees reach 12-14 inches in diameter, and we can start calculating board feet per acre.

The typical forest in Connecticut is now between 60-80 years of age - at the point of "middle-age," when growth is at its best. Therefore, even though there is some loss of woodland acreage to development, the overall resource is improving.

Our foresters tell us that the future demand for New England forest products will increase, perhaps double by the year 2000. With sound management practices, wood products can be harvested on a sustained yield basis, providing a supply of forest products as well as all those amenities associated with a healthy woodland. To meet the demand 20 years from now, we must know the answers today to some important questions: "How much forest land do we have?" And more vitally: "What is the overall quality and condition of our existing forests?"

DEP state foresters are quick to reply that quantity and quality are highly correlated with the degree of management of the forest. Former State Forester Ed Vandermillen's article (page 3) leads us to the realization that Connecticut's forests were virtually unmanaged until the 1950's. Current State Forester Bob Garrepy clarifies the management situation today (page 5).

Garrepy contends that we are under-managing both state and private forests, and that more planning, harvesting, reforestation and resource development in general is necessary.

The principle both Vandermillen and Garrepy underscore in our lead article, is that forests are ever-changing, ever-developing and that a total land management concept must be applied if we are to reap the full value of this most important resource.

The Connecticut Department of Environmental Protection, through its Forestry Unit, is committed to the continued management and conservation of what many people believe is the state's most valuable natural resource--the living forest. Symbolic of our woodland this time of year is the traditional natural Christmas tree that will be displayed this holiday season in thousands of homes throughout the state. As the holiday season now draws upon us, the staff of the Department pauses to wish you and your family a very Merry Christmas and a most prosperous New Year.

Thomas J. Turick

DEP Citizens' Bulletin

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Managing Connecticut's Forests:

Yesterday...

When the settlers first arrived in Connecticut, it was practically one huge hardwood and evergreen forest except along the rivers and shores. Travel was possible mainly on Indian trails through the woods.

What happened to that early forest? Many of you know that the settlers cut down the biggest and best trees to build and heat their homes. Ship building used the pines for masts and oaks for timbers, and these solid Connecticut vessels carried the farm products to the West Indies and other places. The first war vessel of the American Navy came from good Connecticut oak out of Essex. Some heavy timbers used for framing and pinned together with wooden pegs before the Revolution still support homes as sound as ever.

Wood was cut to smelt iron and brass and for making bricks. So--the state was almost entirely logged for commercial, industrial, and domestic use. This logging operation left huge concentrations of unused materials or "slash" in the woods. With no practical means of protection available, this slash fed forest fires which burned thousands of acres annually.

The result was that by 1810 Connecticut's virgin forest had practically disappeared, but the public was unconcerned.

Why did the forest return? It was certainly not due to public alarm or remorse. The answer is that the land use changed because of economic pressure.

When machinery became prevalent on farms, rocky hillsides were unsuitable to changing agricultural techniques. Many people left their farms for better land in the West or began to work in factories in river cities near their homes. Consequently, much farm land reverted to its former condition. Now as we walk the woodlands of Connecticut, we see countless stone fences which mark the boundaries of former farm fields.

Since the Civil War the amount of woodland in Connecticut has more than doubled, and two of every three acres is now forested, making Connecticut a prime field for forestry.

While it is true that Connecticut abused its forests, this was true of most states. We should be proud of the fact that Connecticut was among the first to begin active forestry to manage its resource wisely. The beginning of technical forestry in Connecticut coincided with the beginning of the national forestry movement.

Connecticut forestry had its roots in the State Board of Agriculture, founded in 1866, and was fortunate in having Professor Brewer of Yale as a member. He spoke about forestry at every possible occasion for 30 years or more, and began to get people in the state thinking about the wasteful cutting and burning that was so prevalent. Brewer was the father of forestry in Connecticut. Since he influenced his student, Gifford Pinchot, to go to France to study forestry, Brewer is also considered by many to be the father of United States forestry. There were no foresters or forestry schools in the United States at this time. Pinchot was to become the first U.S. Forester, later first Chief of the U.S. Forest Service. He was a close friend of Theodore Roosevelt, and it was his influence that caused Roosevelt to create the large forest reserves that really began the conservation movement in the United States.

Pinchot was born in Simsbury in 1865 in the Wood or Eno home which the town recently bought. His family endowed the Yale School of Foresty in 1900, and it was Pinchot who advised Austin Hawes to become State Forester in 1904--the point at which interest in forestry practice really began to expand in the state.

Another important event was the formation of the Connecticut Forest and Park Association in 1895. This important event also took place in Simsbury under the guidance of a Simsbury minister, the Reverend Horace Winslow.

(Cont. on next page.)

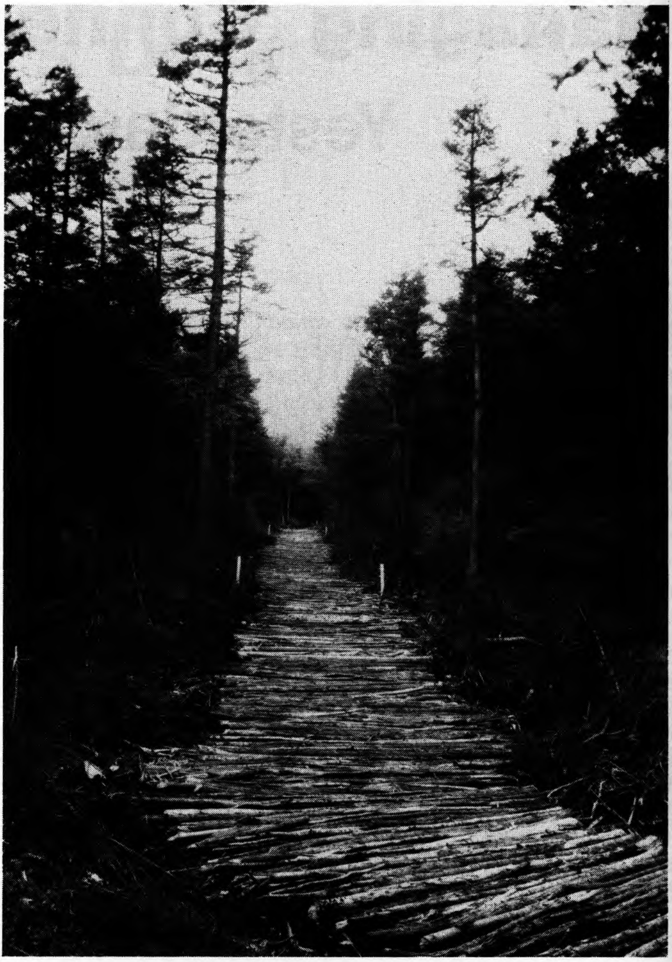
In 1901 the legislature established the position of State Forester through "An Act Concerning the Reforestization (sic) of Barren Lands." Mr. Mulford, the Connecticut Agricultural Experiment Station Forester, assumed the new position while retaining his role of Station Forester. This act was probably the first positive forestry legislation to occur in the state.

In 1913 the Forest Tax law was passed, making it possible for landowners to classify land as forest for tax purposes and to defer tax on timber until cut. This act was a forerunner of today's Public Act 490, which makes forest land eligible for tax concessions because of its open space benefits to the public.

No real progress in forest fire control was made until 1921 when fire wardens became state appointees under the State Forester rather than town appointees. Tens of thousands of acres burned annually. In 1915 alone, 100,000 acres burned. Contrast this with an average of 1,500 acres per year and average size of 2.5 per fire today.

The Great Depression gave forestry an impetus throughout the United States and particularly in Connecticut. Fourteen CCC Camps were established and more than 3,000 unemployed young men were put to work in parks and forests. Roads were built for public access and management use. Forest fires began to be controlled more effectively, and it looked like forestry was really on the move.

CCC workers banding white oak with burlap to trap gypsy moth caterpillars. (1933) (DEP Photo)



Corduroy road through cedar swamp in Pachaug Forest circa 1935. Traces of the road remain today. (DEP Photo)

Then, in 1938 "The Hurricane" struck, and practically destroyed Connecticut forests east of the Connecticut River. But, once again, disaster spawned some good. People became concerned about the fire hazard caused by the wind-felled timber, and the Legislature voted increased appropriations for fire control purposes. More modern equipment was added for the State Forester's use. Radio communications were added, and the modern era of fire control began.

Although forestry and forest protection were pretty well organized by the late 1930's, the bulk of forest land continued to be without management or any means of management service. In 1950 the Cooperative Forest Management Act was passed by the Federal Congress. This act gave money to the states, making it possible for State Foresters to cooperate with U.S. Forest Service in offering forest management assistance to private landowners.

* * *

Edward J. Vandermillen was Connecticut State Forester 1972-1974. He is now with the U.S. Forest Service as Deputy Forest Supervisor of the Chippewa National Forest in Minnesota.

...And Today

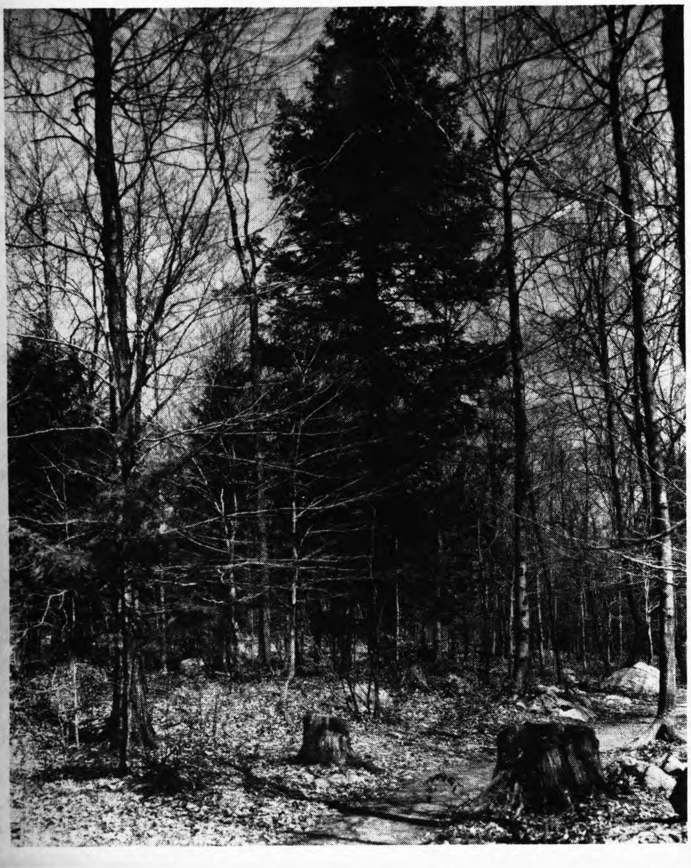
The value of wood products from Connecticut forests, excluding Christmas trees, exceeds ten million dollars annually. The situation could be much improved.

"We are under-managing our forests," says Bob Garrepy, Chief of DEP's Forestry Unit. "And this is true for both the State and for most private individuals who own forested acres." Garrepy estimates that only 10% of all woodland, including State-owned, is being managed.

Central to the idea of forest management is the question: "How much wood can we afford to cut?" The forestry principle most often applied is "Up to but not greater than the amount of wood that is grown each year."

But based on 1972 inventory data, it is estimated that less than 25% of Connecticut's annual forest growth is harvested each year. The 1.8 million acres of woodland in the State are growing about 160 million board feet of timber annually, while harvesting removes 40-45 million board feet each year. One factor is that 90% of the State's forests are owned by private individuals, many of whom have little knowledge of the importance of cutting as a forest management practice.

Stand improvement work to increase growth at Paugnut State Forest in Torrington. (DEP Photo)



"Our State Foresters need to convince people to perform needed cutting and other improvements under a forest management program," said Garrepy. Proper cutting can improve health, appearance, and growth of woodland and provide increased wildlife populations. It provides a community benefit by making forest land productive open space. "Peoples' attitudes are changing to some degree," Garrepy added. "Most people now accept the cutting of trees as necessary to good forest management, but they often prefer the cutting to be done on someone else's land!" DEP studies show that a forest acre, managed from the sapling stage, could triple in volume production and value.

(Cont. on next page.)

Our Forests: A Capsule View

Connecticut is comprised of 3 million acres of which two-thirds, approximately 1,900,000 acres is wooded. Of the wooded acreage about 90% is hardwood, predominantly oak, and 10% softwood with hemlock the dominant species.

Ninety-two percent of total woodland is in private ownership. Fifty percent of forest holdings are in ownerships of less than 100 acres. Thirty-six percent of the holdings are in the 100-200 acre class, and the remaining 14% are in larger private and public ownerships. There are 45,000 to 50,000 individual owners of forest land. There is a trend away from ownership of woodlands as a source of forest products.

Connecticut is in an area where several major forest types come together. In the western part of the State are found northern hardwoods among which are sugar maple, white and yellow birch, white ash, beech, white pine and hemlock. Also found here are the central hardwoods which consist of white oak, red oak, black oak, some chestnut oak and pig nut, mocker nut and shagbark hickory. Almost pure stands of hemlock occur on the more damp north and northeastern slopes.

In the eastern part of the State the soil is generally much poorer, tending to be very sandy, rocky and dry. In this area you find oak-pine forests of white, red, scarlet and pin oak, mixed with very good white pine and some hemlock. The upland central hardwoods are quite common as well.

In the central portion of the State, along the Connecticut River Valley, tulip poplar, sugar maple, black walnut, sycamore, white pine and hemlock can be found.

All areas of the State have extensive areas of red maple swamps. Where there is sufficient drainage, ash, white pine and hemlock form an admixture with the maple.

DEP's Forestry Unit, which is responsible for forest management operations on all State forests, parks, and game management areas, estimates it harvests less than 45% of the annual timber growth on State lands. Statistics indicate more than nine million board feet of timber grew last year on State lands, while only about four million board feet were cut during this time.

Last year, production from DEP lands exceeded $110,000 in value. Nearly all sales were on a stumpage, or "cut your own" basis. Forest products from this harvest included Christmas trees, boughs and cones, cordwood, pulpwood (for making paper), posts, poles, and piling and a variety of sawtimber.

According to Garrepy, intensive management is the key to Connecticut's forest future. "Intensive management goes far beyond the simplistic question of cutting. The word "management" encompasses many activities and practices including inventory of the timber resource, making forest management plans, cutting plans, the selling of forest products, reforestation, and protection from fire, insects and disease," Garrepy said. "Nor can the trees be considered alone. Recreation, wildlife, potential sources of water pollution and aesthetic considerations are closely interwoven with forestry under the concept of multiple-use management."

The private forest landowner has a wide variety of management assistance sources available to him:

a) State service foresters

b) Private forest consultants

c) Soil Conservation Service technicians

d) Extension Service specialists

e) Special Federal cost-sharing programs

Services available from these sources include: advice and assistance on marketing, reforestation, insect and disease control information, construction of roads and fire ponds, harvesting operations, and general management planning.

With the demand for wood products in New England expected to double in the next 30 years, forested acreage will become a most valuable resource. "With increased support of public forestry programs, I'm optimistic we can meet this demand," Garrepy said. "The future of forestry in Connecticut is nearly unlimited. We have the resource, the interest of the public, an expanding, modernized logging and sawmilling industry, and a number of competent private consultant foresters. The State Forestry Unit should continue to serve in a leadership role and as a catalyst to insure the wise use of our most important resource," Garrepy concluded.

Mystic River Case:

Court Upholds Commissioner

On November 19, Hartford County Superior Court Judge Leo J. Parsky upheld the decision of Commissioner Joseph N. Gill to grant a permit to George Korteweg to place fill and erect a structure on the east bank of the Mystic River. The permit was granted on November 14, 1975 but had been challenged by the Mystic Seaport, Inc. and others. The judge denied all but Mystic Seaport standing to challenge the permit.

In his decision on the merits of Mystic Seaport's appeal, Judge Parsky said, "Where there is a record before an administrative agency, a court in reviewing the administrative action on appeal must examine the record and determine from it whether the agency acted arbitrarily, unreasonably and contrary to law. (Case citation omitted) Unless the Commissioner's decision in this case is arbitrary, illegal and not reasonably supported by the evidence it must be sustained." (Case citation omitted)

Judge Parsky ruled "on the basis of the record before us we cannot conclude that he was clearly wrong. There was no evidence that the proposed project would produce pollution. There was evidence that a portion of the Mystic River estuary would be destroyed but it is not clear from the record that the environmental impact of such destruction would be such as to render it unreasonable."

The judge accordingly dismissed the appeal of Mystic Seaport, Inc.

Announcement

Governor Ella Grasso recently announced the appointment of John J. Curry of Milford, Connecticut as a Commissioner of the New England Interstate Water Pollution Control Commission, effective November 23, 1976, for the term ending June 30, 1979. Mr. Curry is former Director of the Water Resources Commission, Connecticut Department of Agriculture and Natural Resources. He is currently a private consultant to DEP.

Buffer Bunch Available

Plant a Tree...Or 50!

Until April 1, orders are being accepted at the Pachaug State Forest Tree Nursery in Voluntown for "wildlife buffer bunches" to be planted in the spring.

DEP's Forestry Unit offers these tree and shrub seedlings at cost to Connecticut homeowners who would like to attract wildlife. Last year the state nursery provided nearly 1.7 million seedlings for planting.

The buffer bunch packet contains 20 trees and 30 shrub seedlings. The 1977 buffer bunch is expected to contain the following: 10 White Pine, 10 Norway Spruce, 15 Autumn Olive and 15 Silky Dogwood. The evergreens provide cover for small animals and the shrubs provide seeds or berries for food. The nursery reserves the right to substitute species if the need arises.

The price of a bunch of 50 seedlings is $7.00, which includes the cost of direct mailing. The plants are eight to sixteen inches high, and each is labelled and comes with planting instructions. They are shipped in April. The seedlings are suitable for a quarter acre or more of open land and will attract songbirds, rabbits, squirrels and other small animals.

DEP has placed two restrictions on the seedlings: they may not be used for ornamental plantings and they may not be resold with roots attached. Ornamental plantings would include using the seedlings individually instead of in groups or using them immediately around a house.

Landowners with planting areas of one acre or more may also purchase from the state nursery a larger variety of species. These orders are subject to special approval procedures.

All seedlings are distributed on a first come, first served basis. Orders are processed as they arrive. Last year many late applicants were disappointed when the stock sold out early.

Order forms and information are available from the DEP regional headquarters: Region I, P.O. Box 161, Pleasant Valley, 06063, tel. 379-0771; Region II, Judd Hill Road, Middlebury, 06762, tel. 758-1753; Region III, Box 150A, East Hampton, 06424, tel. 295-9523; or Region IV, State Forest Nursery, RFD I, Voluntown, 06384, tel. 376-2513. Information is also available at the State Forester's Office, DEP Room 260, tel. 566-5348.

Seed→Seedling→Buffer Bunch

Did you ever wonder how a nursery such as Pachaug State Forest Tree Nursery grows 1.7 million seedlings per year for planting throughout the state?

The operations at the state nursery are quite similar to those of a large farm. Your buffer bunch has its beginnings in the seed collection which occurs in late summer or early fall. The seeds are gathered locally along highway rights-of-way and from state forest lands. Conifer tree seeds are removed from cones while hardwood shrub seeds are extracted from the **pulp** of the fruits.

The seed is then stored under refrigeration until sown. Sowing occurs in the fall. Beforehand the seed beds are prepared. Each bed is 4 feet wide by 300 feet long. The beds are plowed, harrowed, and leveled. Then a special machine called a seed bed former creates the bed by elevating and loosening the soil. Shrub seeds are individually planted one inch below the soil which is then covered with salt marsh hay. Conifer seeds are broadcasted by mechanical means and the bed is then covered with pine needles. The mulch covering protects the newly sown seed from wind and soil erosion.

By spring the seed will germinate. A fertilization and irrigation process now begins. Herbicides, fungicides and insecticides are applied through the summer.

As fall arrives one complete growing season has passed. The shrubs, about one foot tall now, are inventoried to determine the total amount available for harvesting. Then the shrub seedlings are "lifted". A tree lifter scoops up each seedling and shakes it to remove the excess soil from its roots. The seedlings are then counted, bundled, and replanted in a sand trench where they await packing and shipping the following spring.

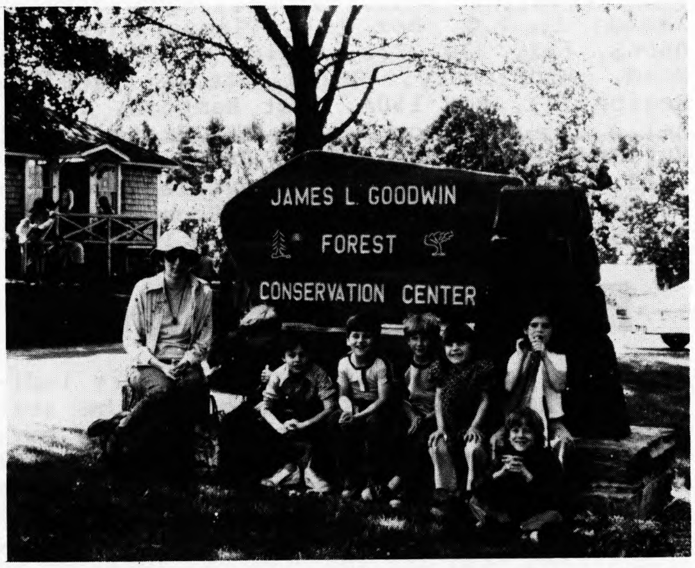
(Cont. on page 12.)

Goodwin Forest Conservation Center

The James L. Goodwin Forest Conservation Center is located in Hampton and Chaplin, Connecticut, just off U.S. Route 6 on beautiful rolling land typical of the eastern Connecticut highlands. The Conservation Center consists of an exquisite colonial structure, surrounding buildings and eighty acres of land, all part of the State Forest.

The former colonial summer home of James L. Goodwin is now a small museum which serves as a forest learning center. Colorful displays explain man's relationship to the forest environment and the "why's and how's" of multiple use forest management.

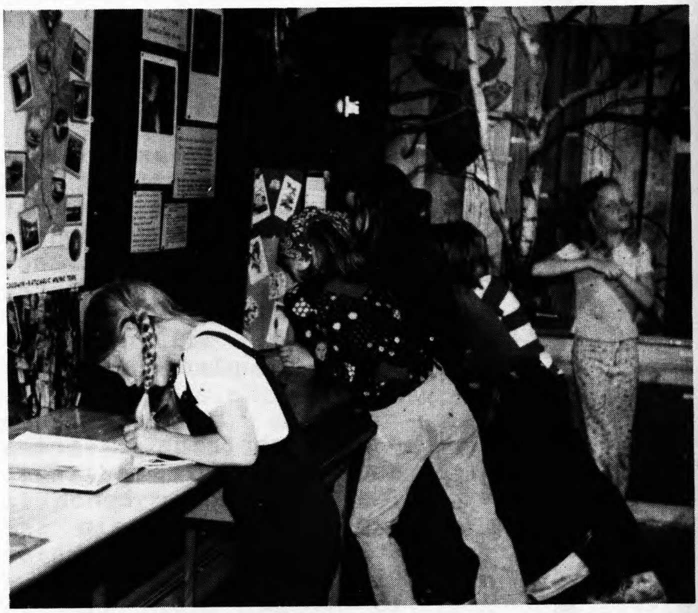
Visitor attendance at the Center this year has been high. According to Center Director Lois Kelley nearly half of the 15,000 visitors this year are with prescheduled groups--most of these are young people with school classes, Scout troops, 4-H groups or other organizations.



"Our Center is a 'hands on place,'" she said. "The children learn about the forest through our manipulative displays and our guided nature tours."

Special programs for adults and family groups have been added to the Center's schedule. These are designed to lure the more casual visitor into learning about the forest and its uses.

"Our special programs have ranged from weekly walks and bee hunts to meetings with specialists on winter camping, Connecticut snakes, and beaver populations," Mrs. Kelley explained.



Over the past four years activities going on at the Center have fallen into five main categories:

1. scheduled group field trips
2. youth group camping
3. special weekend programs designed for young adults and families
4. daily guided walks
5. casual recreation such as fishing, hiking, horseback riding, ski touring, skating and snowshoeing

The marked trails within the Goodwin Forest now total over ten miles through varied and interesting forest areas. Unmarked forest roads add many more miles of easy hiking. The foot trails are popular year-round. Self-guiding maps are available at the Center.

Informal visits to Goodwin Forest by individuals and families wishing to enjoy recreation compatible with forestry, wildlife protection, and conservation education are welcome at any time.

The Forest Conservation Center is open 1:00 - 6:00 p.m. Wednesday through Sunday and by scheduled appointment.

Visits may be scheduled by mail (RFD #1, Box 100, No. Windham 06256) or by calling the Director at (203) 455-9534.

The Goodwin Gift-- From Farm to State Forest

In 1964, James L. Goodwin of Hartford generously gave his 1,722 acre forestry operation in Hampton and Chaplin to the people of Connecticut for a State Forest. Through this gift Mr. Goodwin presented the citizens of the state with the results of over 50 years of outstanding forest management on his property.

Mr. Goodwin also provided for the establishment of a Conservation Center to teach forestry and other aspects of conservation to youth and adult groups on a statewide basis.

The purchase of a three-acre white pine grove and 25 acres of old field in 1913 marked the beginning of what is today Goodwin Forest. The first planting was completed in 1914 and consisted of 16 acres of four-year white pine transplants.

The farmhouse, now the Conservation Center, was constructed in 1915 and 1916 from plans drawn by Mr. Goodwin's brother. In the years that followed, additional land was purchased and plantations were established on many of the fields that were not already forested.

The first Christmas tree plantation was established in 1921 when 20,000 spruce two-year transplants were planted. The forest has produced Christmas trees for sale since 1924.

The red pine plantations have produced lumber, poles, and posts which have been marketed and have added to the income of the forest.

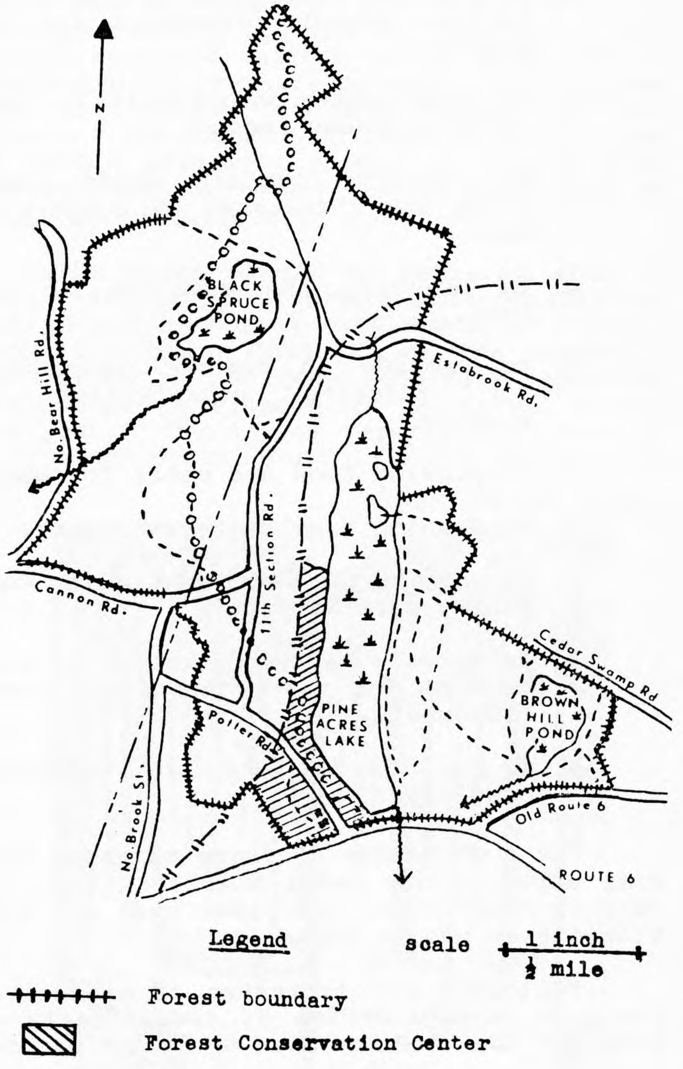
The spruce plantations have produced Christmas trees, tobacco poles, posts, piling and lumber and some of these plantations still have a high volume of saleable materials remaining.

The forest composition was greatly modified by fire in the days before the development of the excellent fire protection of the modern era. It is very probable that these fires as well as heavy cutting greatly increased the vigorously sprouting oak and chestnut at the expense of pine and hemlock which do not sprout. In the time when Mr. Goodwin's management was starting, the catastrophic chestnut blight was speedily wiping out the magnificently versatile American chestnut. Most of the dead chestnuts were salvaged for lumber, posts and poles. Small chestnut sprouts can still be found beneath many of the stands but they soon succumb to the blight.

The State Forest, though not designated as a wildlife sanctuary, nevertheless has a surprisingly diverse natural population of birds and other animals. Enhancement of wildlife has been accomplished on the forest in many ways. Three ponds have been built, the largest being Pine Acres Lake. Wood duck nest boxes have been placed on these ponds and have been used regularly by wood ducks. Deer have wintered on the forest and are numerous. Beaver are active in the ponds and have been present in the forest for many years.

The 1,800 acre State Forest and the James L. Goodwin Conservation Center are under the supervision of DEP's Forestry Unit.

The James L. Goodwin State Forest and Forest Conservation Center, Hampton and Chaplin, Conn.



A.B.C.'s of Starting a Community Forest

(U.S.D.A. Forest Service Reprint)

Clubs that wish to sponsor a movement for the establishment of a community forest oftentimes experience difficulty in getting the project started because of uncertainty as to initial procedure. Some suggestions of first things to do, based upon the methods that have proved successful, may help such groups in other places to get a program of action under way. The following is not presumed to be a blueprint of procedure for every occasion. Situations differ in each community and the needs of the community differ.

The Plan

The first essential, of course, is to have a clear idea of the objective. The reasons for having the forest should be listed in a concise preamble to a written plan which will guide the committees that work out the various parts of the program.

Some of the purposes usually included are--

1. To provide facilities for more extensive outdoor recreation for the people.
2. To grow timber which will in time yield a steady income.
3. To preserve certain woods areas which are threatened by commercial use.
4. To beautify the environs of the town.
5. To provide an outdoor laboratory for teaching conservation in schools.
6. To provide food and cover for game.
7. To develop a wildlife sanctuary.
8. To protect the watershed of the community water supply.
9. To serve as a demonstration in tree growing for the benefit of private landowners.
10. To put idle tax land into productive condition.

The combination of these purposes that will apply to any particular locality will vary in every case, and other uses not mentioned here may be added.

Following the statement of objectives the plan should define as specifically as possible the kind and size of forest proposed to carry out the objectives, and the major improvements that are contemplated. For example, will it be a county, municipal or school forest? Do you propose to have a forest of 40, 100, or 1,000 acres or more? Is the land already available, or is the site to be acquired? Is the erection of a community building or a memorial or other structure contemplated? Is there a shoreline to be developed or an artificial lake proposed? This plan serves as a prospectus for selling the project to the people of the community and as a guide for the campaign committees.

The Action Program

Once the project is clearly defined you are ready to start the action program. Inasmuch as the community forest is a public institution a campaign for its establishment will be successful only if the people are interested and a large part of them want it enough to give it their support. An educational campaign should therefore be started to develop this popular interest. For this work an education committee should be set up. It will proceed about as follows:

Step 1. Get the local newspaper editor to "plug" the program. The newspaper editor must be constantly supplied with material for stories about the proposed forest and the benefits it will bring to the community . A single story will not suffice.

Step 2. Contact other public service organizations of the town and get them to vote their support, including the Chamber of Commerce, the various luncheon clubs, literary, educational, church, welfare, and other social organizations. The presentation of the plan to these organizations should be made by personal contact with their leaders and by talks and addresses in their meetings.

Step 3. Call a public meeting with prominent speakers to endorse the project. The public meeting should be carefully organized and well advertised by use of the newspapers, window cards, handbills, local radio, and announcements in churches. The speakers should be prominent persons who enjoy the confidence of the people, but care should be exercised to keep the program free from any political affiliations. The chairman of the meeting should be one who is thoroughly sold on the project and enthusiastic in his or her support of it. Before the meeting the leaders of all the prospective cooperating organizations should be contacted and promises secured that they will have representatives at the meeting. From the membership of these organizations representatives should be appointed to work on the community forest campaign committees. Prior acceptance by these appointees should be secured in order to insure their active participation. At the public meeting the proposal to establish the forest may be brought to a vote and if it is approved, the chairman will then be able to appoint the campaign committees and start them on their work.

The Committees

The committees should divide the work about as follows.

Publicity Committee. Its function is to keep the project continually before the public. This is especially important if it is proposed to raise funds through subscription. It will inform the public as to plans for the forest and its uses and benefits to the community.

Legal Committee. This committee will draft the ordinance, if such action by the Common Council or the Board of Commissioners is necessary, which will designate the authority to have charge of the forest. It will also examine land titles and arrange for transfer and recording of titles. In a few States there will be need for enabling acts by the legislature. Arrangements for legislation should be handled by the legal committee.

Finance Committee. The project may be financed by popular subscription, by endowment, by appropriation of public money, or by other means. The finance committee's job is to prepare the budget of funds that will be expended for promotion purposes and for acquiring the land. It should devise the method of raising the funds and direct the work of solicitation. If the money is to be raised by private subscriptions, or large donations, it is always wise to include in the budget a fund to be used by the governing board for improvement and maintenance of the forest until the governing board has developed the permanent financing. This will prevent a lag in the improvement of the property and consequent loss of public interest in the project.

Land Committee. If the land is not already in public ownership, a committee is needed to search out the available sites and procure options to purchase. The committee should have among its members people who not only know real estate values, but who also understand the suitability of the site to the purposes for which the forest is being established.

The ordinance proposed by the legal committee should provide for a permanent board to manage the forest. It should be a non-political, non-partisan board, the members of which are elected or appointed to serve without pay for a term of years, with terms of office staggered in order to insure continuity of management policy. The powers, functions, and responsibilities of the Forest Board should be clearly defined. The board should have authority to perform all acts necessary for the protection and maintenance of the forest, to plant trees, thin, prune, and harvest the timber, to hire labor, construct improvements, sell use privileges and forest products, and to receive the proceeds for the community. The ordinance should specify the disposal of the forest receipts, either to be deposited in the community treasury or made available for the maintenance or development of the forest. The Forest Board should be required to keep a permanent record of expenditures and receipts of money and of donations of labor and materials.

The board should be required also to make a written or printed report annually to its parent authority--the Board of Commissioners, Common Council, or the Board of Education, as the case requires--reporting the use and development of the forest during the year. The annual reports will constitute a historical record of the forest. It

(Cont. on next page.)

A.B.C.'s (Cont.)

is very desirable that the written reports be supplemented by series of photographs taken at regular intervals and also on special occasions which will provide a visual record of the development of the forest. As the years pass, this pictorial and statistical record will be found of inestimable value.

Forest Boards vary in their competence and in their devotion to the responsibilities of their office. The productiveness of the forests varies accordingly. Appointments to the Board should never be perfunctory. The members should be people of high civic standing who are willing to give of their time and talents to promotion of the community welfare. They should also be people who appreciate the out-of-doors and nature's resources, and who can work understandingly under the direction of professional foresters. Professional guidance in the management of the forest is essential. Technical advice can be obtained from the State Forester, or from local consulting foresters.

* * *

Editor's Note: It occurred to us in the preparation of this article that the procedures outlined might also be applicable to towns initiating open space programs other than the starting of a community forest.

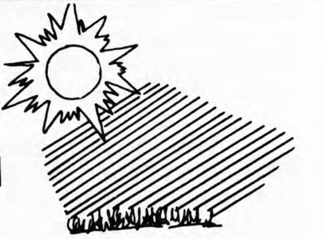
SEEDLINGS (Cont.)

Conifer seedlings are not lifted after one growing season as they are only about two inches in size. They must go through another year's rotation. After two full growing seasons they are about eight inches in height and are ready for lifting. Unlike the shrub seedlings, the conifers are lifted in the spring of the second year, the roots are immediately wetted down and they are taken to the packing shed to be prepared for shipping.

In the shed, the shrub and conifer seedlings are combined and packaged in peat humus. Finally, the buffer bunch is mailed.

When the buffer bunch seedlings arrive at your doorstep, look at them closely. Think about them before you plant. Their growing life goes back maybe two years. Their history goes back centuries.

Solar Energy Courses Announced



Two energy-related courses will be offered by the University of Connecticut Noncredit Extension at the West Hartford campus of the University of Connecticut during the spring semester.

SOLAR ENERGY FOR HOMES AND BUILDINGS is scheduled for 12 Tuesday evenings 7:30-10 p.m. beginning Tuesday, February 1, 1977.

ENERGY CONSERVATION IN BUILDINGS is scheduled for 12 Thursday evenings 7:30-10 p.m. beginning Thursday, February 3, 1977.

Classes will be held at the University of Connecticut campus in West Hartford. Course fee for each is $150.

The courses will be taught by Dr. K. Raman, a visiting faculty member at the University of Connecticut. The courses will be directed towards architects, builders, engineers, building managers, and others seriously interested in Energy Conservation and in Solar Energy.

For registration and further information, write or call the Extended and Continuing Education Division, Non-credit Extension Office, Box U-56 K, University of Connecticut, Storrs, CT 06268. Telephone (203-486-3235).

Nature Notes

By Penni Sharp

Your December Environment

December is:

Short days and long nights. . . woodpeckers chiseling for grubs. . . the bright red of winterberry. . . evergreens laden with snow. . . insects dormant. . . the planet Venus in the southwest after sunset. . . cottontails remain active. . . ice fishing. . . log splitting time. . . ducks gathering along the coast. . .

* * *

Christmas Trees

In December, bare trees and frozen grasses dominate the landscape. Among the plants, the few signs of life appear in the needleleaf plants known as softwoods or coniferous trees--trees which bear their seeds in cones. Most of the needleleaf plants are green throughout the year and continuously drop and replace needles. The exception in the Connecticut area is the Larch or Tamarack tree which behaves like a deciduous tree and sheds its needles annually.

During the Christmas season, many of us bring evergreens into our homes for use as holiday decoration. A closer look at these trees should prove interesting. You might start by asking yourself a few questions. Why do conifers keep their leaves, or needles during the winter? Examine some samples of evergreens and look for special adaptations that enable these trees to withstand the rigors of winter. (An adaptation is a unique structure or behavior that helps an organism survive in its environment.) How does the structure of an evergreen leaf compare with that of a deciduous tree leaf? What do you think are the reasons for the differences?

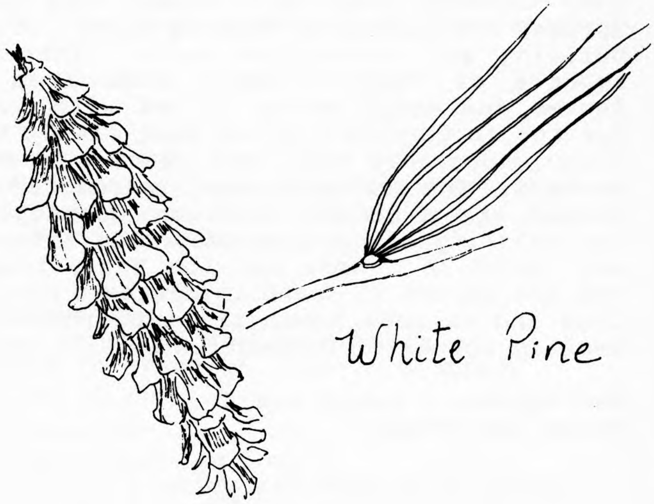
If you plan to trim a Christmas tree this season, chances are that your tree will belong to one of the following groups of evergreen trees: Pine, Fir, or Spruce. Here are some clues that will help you to differentiate among the species.

Pines:

The needles in pine trees are usually long and slender, and occur in bundles. Pine branches appear in whorls on the tree, and since a new whorl is added each year, you might try to determine the age of a pine tree by counting the whorls of branches. Pines are important timber trees, and in addition to lumber, give us turpentine, tar, and pitch.

White Pine can easily be recognized as it is the only pine with five needles in its bundle; 5 needles, 5 letters in w-h-i-t-e. The long cone hangs down. Red Pine has two needles to each bundle. Pitch Pine has three needles per bundle.

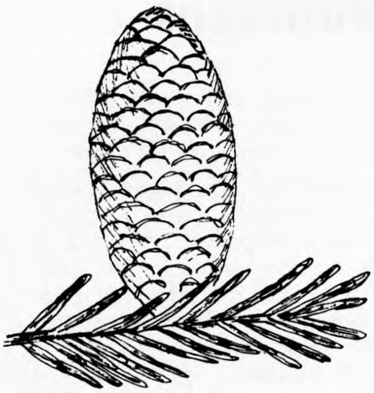
White Pine. Cones slender, 3" to 10" long. Needles long and slender.



Firs:

The needles of firs are flattish and grow directly from the branch. The cones of true firs grow erect from the branches; they disintegrate at maturity and leave behind a spikelike axis. Firs are sources of paper pulp and are popular as ornamentals. Balsam Fir grows in Northern New England forests and its aromatic needles are often used to fill pillows. Douglas Firs are not considered 'true Firs'. The needles are flat; they narrow at the base forming a short petiole (stem). The cones of the Douglas Fir hang down and have distinctive three pointed bracts.

Balsam Fir. Note the upright cone and flat, short leaves. Twigs are smooth.

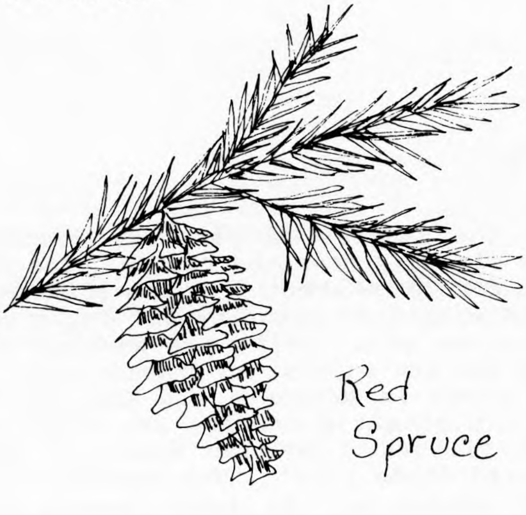


Balsam Fir

Spruces:

The needles of spruce trees are 4-sided, short, stiff, and sharp to the touch. They usually grow all around the twig. Spruces are used in producing paper, in boat building and contruction work. There are reports of "spruce beer" made from the leaves and twigs being boiled with honey. Spruces in Connecticut are most likely to be found where they have been planted as ornamentals. The Norway Spruce, introduced from Europe, is a common sight in Connecticut. The majority of spruces occurring naturally are found in Canada and the West; however the Red Spruce is found in northern New England and extends southward into the northwestern corner of Connecticut.

Red Spruce. Cones are 1 1/2" to 2" long. Twigs are rough.



Red Spruce

Hemlock:

An evergreen that is not likely to be used for a Christmas tree, but one that occurs naturally in Connecticut woodlands is the Eastern Hemlock. This graceful tree can be recognized by its flat needles and small cones which hang from the tips of its branchlets. Each needle grows on a petiole, and the undersides of the needles have two distinct white lines or stomata (microscopic openings that allow air to pass in and out of the leaf).

Plant Legends

There are many interesting legends about the plants that are associated with Christmas. English Holly, with its bright red berries was held in esteem by both the Druids and Romans. The Romans used it to ward off evil spirits. The custom of hanging sprigs of holly about the house originated with the British who did so to provide hiding places for elves and fairies. In Germany, a legend about holly tells that the berries were originally white, but were stained red by Christ's blood when used as the Crown of Thorns. Do some research on your own. What can you find out about some of the other plants of the Christmas season?

The Tree After Christmas

When Christmas is over, there are many things that you can do with your tree. A tree can be "planted" in a bucket of sand and decorated for the birds with strings of popcorn and cranberries. If you enjoy carving wood, you could use pieces of the tree for this purpose. Needles can be collected and used to stuff pillows. What will you do with YOUR tree?

Permits Issued

Oct.-Nov., 1976

Water Compliance

October 12
Custom Plating & Buffing
Permit to discharge cleaning agents into sanitary sewer in Torrington

October 20
Birken Manufacturing Co.
Permit to install system for treatment of metal finishing waters in Bloomfield

October 21
Edward and Rachel B. Patrick
Permit to discharge into subsurface disposal system in Branford

November 9
R.E.M. Chemicals, Inc.
Permit to discharge 100 gal/day alkaline detergent washing solution to sewer system in Southington

Water Resources

October 22
R.S. Byrnes
Permit to construct and maintain shore protection along Conn. River at Haddam

November 1
Hedgebrook Estates, Inc.
Permit to build pond and dam on property in Stamford

November 3
Cedar Island Marina, Inc.
Permit to rearrange floating docks in Clinton

November 3
Conn. Dept. of Transportation
Permit to install and maintain storm water pipe to outlet into Thames River at New London

November 8
Clinton Harbor Marina East
Permit to maintain a pile and timber bulkhead, pier, 2 ramps and floats in Hammonasset River at Clinton

November 9
Joan Van Epps
Permit to construct and maintain a marina including bulkhead, floats and gas dock at Old Saybrook

November 9
Spicers Noank Marina
Permit to retain and maintain docks at Groton

November 10
Town of Westport
Permit to remove stone material and redeposit above mean high water line to stabilize Compo Beach

November 12
Simon Mendelson
Permit to fill a portion of wetland in Fairfield for the purpose of house construction

November 15
City of Stamford
Permit to install and maintain interceptor sewer in Rippowam River at Stamford

November 15
City of Stamford
Permit to install and maintain a conduit in the east branch of Stamford Harbor

November 16
O & G Industries
Permit to conduct gravel mining operation in Naugatuck River at Watertown

November 16
Mortimer Geib
Permit to fill 0.6 acres of inland wetland in Milford and to extend existing channelway

November 17
Charles Dumeer
Permit to construct and maintain a styrofoam dock, ramp and also to dredge L.I. Sound at Stonington

November 22
Conn. Dept. of Transportation
Permit to widen Rt. 104 in Stamford

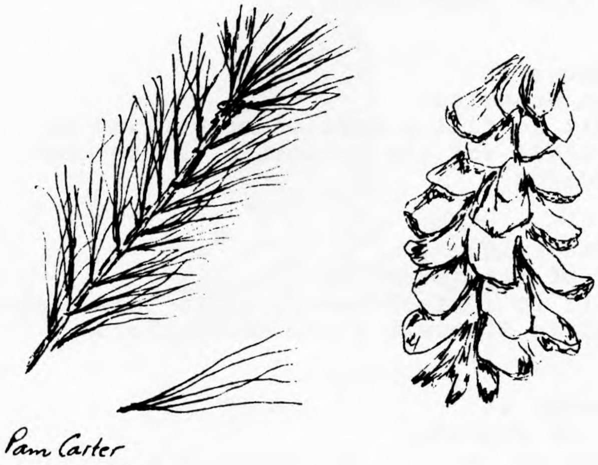
November 22
Standard Brands, Inc.
Permit to place perforated pipe under drain and existing road in wetland area of Stamford

November 23
Thames Shipyard & Repair Co.
Permit to construct and maintain two pile and timber docks, to fill and dredge portions of the Thames River at Montville, depositing dredged material in approved location in L.I. Sound

November 26
Hicks & Otis Prints
Permit to place rip-rap for Norwalk River bank stabilization in Norwalk and to build boulder dam

Trailside Botanizing

by G. Winston Carter



WHITE PINE
(Pinus Strobus)

One of our loveliest cone-bearing trees found in this area is the white pine (Pinus strobus). It can be easily recognized by the bundles of five needles in a cluster. This is the only five-needled pine that grows as a native in this country. However, Himalayan White Pine (an introduced species) has five long drooping needles. The age of a young pine can easily be determined by counting the number of whorls of branches from the bottom to its top, allowing three years for the early development of the tree when it did not produce side branches.

The white pine is wind-pollinated and the artistic looking cones that develop take about two years to mature. Their seeds are wind blow when they are dropped. They are light weight and often carried to old pastures and fields where they may play an active role as sun-loving trees in the early stages of a forest prior to the time the forest is taken over by the shade-tolerant hardwoods. It prefers moist, sandy loam soils but it can grow in much less favorable sites, where its growth may be retarded.

Before the turn of the century, white pine furnished a great amount of finished lumber for building purposes in the Northern states. Masts and spars of the New England clipper ships were made from this wood. Due to wasteful forest practices, few of these original trees remain.

In the early history of this country, the American Indian prized the bark of the white pine for food.

DEP citizens' bulletin

State of Connecticut
Department of Environmental Protection
State Office Building
Hartford, Connecticut 06115

Commissioner: Joseph N. Gill
Director, Info & Ed: Greg Sharp
Editor: Thomas J. Turick
Illustrator: Deborah Dumin
Layout: Rosemary Gutbrod
Phone: 566-5524

Seasons Greetings

from

D. E. P.

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